IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of

Inventors: Gregory B. Arnold et al

Serial No.: 09/384,675

Filed: August 27, 1999

Title: PORTABLE PRINTER AND DATA ENTRY DEVICE

Examiner: Mr. Jared Fureman

Group Art Unit: 2876

CERTIFICATE OF MAILING

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Hon. Commissioner of Patents and Trademarks

Washington, DC 20231

Sir:

APPELLANTS' AMENDED APPEAL BRIEF

This is an appeal from the Final Rejection dated November 20, 2002.

REAL PARTY IN INTEREST

The real party in interest is Paxar Americas, Inc., by change of name from Monarch Marking Systems, Inc.

RELATED APPEAL AND INTERFERENCES

There is no related appeal or interference.

STATUS OF CLAIMS

Claims 37 through 67, 69 and 70 and 72 are rejected. Claims 73 through 76 are allowed. Claims 68 and 71 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten into independent form.

STATUS OF AMENDMENTS

All amendments have been entered.

SUMMARY OF THE INVENTION

Although reference characters and a specific embodiment of the invention are referred to herein for the convenience of the Honorable Board, there is no intention hereby to limit the invention.

With reference initially to Figs. 1 to 2, there is shown a portable data entry device 12 and a portable printer 11 [Page 3, lines 12 and 13]. The printer has an elongate housing 17 [Page 3, line 20] comprised of a pair of opposed mirror-image housing sections 18 and 19 [Page 3, line 21]. The housing 17 has a front portion [left side of Figs. 1 and 3] with a compartment 20 [Page 3, line 22] adapted to receive the data entry device 12. The compartment 20 has an open end [left end of housing 17 in Figs. 1 and 3] through which the device 12 can be slid to a position below retaining flanges 22 and 23 [Page 3, line 27] until a connector 30 [Page 4, line 8] in the device 12 connects to a connector 31 [Page 4,line 31] on the printer 11. The housing 17 has an open top at its front end portion through which a display 15 can be viewed and keys 14 [Page 3, line 18] can be operated.

The front end of the data entry device 12 includes a scanner 13 [Page 3, line 18] for scanning data, such as a bar code on a label L [Page 3, line 16].

As best shown in Figs. 3 and 4, an elongated printed circuit board 59 [Page 5, line 23] has a front end which mounts preferably a plurality of batteries 62 [Page 5, last line]. There is a separator 65 [Page 6, line 8] between each pair of batteries. The rear portion of the printed circuit board 59 mounts a print module 34 [Page 4, line 20] which has a thermal print head 38 and a cooperable platen roll 39 [Page 4, line 25] for printing on a web of paper such as a label web W [Page 4, line 22]. The printer printed circuit board 59 mounts the batteries 62 and the print module 34 to minimize the need for wires such as ribbon connectors and to obviate the need to mount the batteries and the print module on other parts of the printer.

The print module 34 and the roll R [Page 4, line 21] of the web are, indeed, disposed at the rear portion of the printer housing 17. The printer housing 17 has space for receiving the roll R.

The housing has a concave surface 32 and a strap 33 is disposed at the concave portion.

ISSUES

1. Whether or not claims 37, 43, 51 through 54 and 56 are rejectable under 35 U.S.C. 103(a) as unpatentable over Fukumoto et al in view of allegedly admitted prior art and Sherman et al.

2. Whether or not claims 38 through 42 and 55 are rejectable under 35 U.S.C. 103(a) as being unpatentable over

Fukumoto et al in view of allegedly admitted prior art, Sherman et al and Hanson.

3. Whether or not claim 44, 45, 66, 67, 69 and 70 are rejectable under 35 U.S.C. 103(a) as unpatentable over Fukumoto et al in view of allegedly admitted prior art, Sherman et al, Goodwin et al and Austin et al.

4. Whether or not claims 46, 57 through 60 and 72 are rejectable under 35 U.S.C. 103(a) as unpatentable over Fukumoto et al in view of allegedly admitted prior art, Sherman et al, Goodwin et al, Austin et al and McKinnon et al.

5. Whether or not claims 47 through 49 and 65 are rejectable under 35 U.S.C. 103(a) as unpatentable over Fukumoto et al in view of allegedly admitted prior art, Sherman et al, Austin et al and McKinnon et al.

6. Whether or not claim 50 is rejectable under 35 U.S.C. 103(a) as unpatentable over Fukumoto et al, allegedly admitted prior art, Sherman et al and Texas Instruments.

7. Whether or not claims 61 through 64 are rejectable under 35 U.S.C. 103(a) as unpatentable over Fukumoto et al in view of allegedly admitted prior art, Sherman et al and Austin et al.

GROUPING OF CLAIMS

All the rejected claims are submitted to be patentable over the references, each claim is argued separately, and the claims being of different scope do not stand or fall together

except as follows: claims 37, 53, 54 and 56 stand or fall together.

The Examiner has determined that the claims are grouped as follows:

Group I - Claims 37, 43, 51, 52, 53, 54 and 56

Group II - Claims 38, 39, 40, 41, 42 and 55

Group III - Claims 44, 45, 66, 67, 69 and 70

Group IV - Claims 46, 57, 58, 59, 60 and 72

Group V - Claims 47, 48, 49 and 65

Group VI - Claim 50

Group VII - Claims 61, 62, 63, 64

DESCRIPTION OF THE REFERENCES

In the rejection of all the rejected claims the Examiner has referred to "admitted prior art" without identifying the prior art, except with reference to Fig. 7 of the present application. In describing the "admitted prior art" the Examiner has referred on page 4 lines 1 through 7 of the Final Office Action to Fig. 7 of Appellants' present patent application using Appellants' own reference characters. This is totally improper. The Examiner has admitted in Office Action dated December 23, 2002 that Fig. 7 is not prior art. If the Examiner wishes to refer to prior art cited in information disclosure statements filed in the present application, it is believed, but not known, whether or not he is referring to the Axiohm reference USER'S Manual, THTP Series, Preliminary Issue 3104660-FDE, of record described

immediately below. In the Axiohm reference, the thermal printer mechanism or print module shown and described discloses a print head and a platen, gearing driven by an electric motor for driving the print head, and a cover for mounting the platen roll.

Fukumoto et al U.S. patent 5,047,615 discloses a control unit or data entry device 1 having a bar code reader or scanner 2 coupled to the unit 1 by a cable. The unit 1 is received by a bar code printer 3. The printer 3 and the unit 1 can be optically coupled at terminals 9 and 10. The printer 3 has a housing with an upstanding wall which defines a space within which the unit 1 is received (Fig. 2). The printer 3 supports a roll of a web to be printed upon. The top portion of the unit 1 is received under member 8. The printer 3 does not have an open front end so that the unit 1 cannot be slid into the printer through any open end but must rather be dropped into the space within the upstanding wall.

Sherman et al U.S. patent 5,186,558 discloses a portable printer assembly 15, with a housing 16 having an integrally molded handle 28. A data entry device cavity 35 can be disposed side-by-side of printer cavity 26 (Fig. 2). A terminal holder 36 [Col. 5, line 6] of a terminal device 40 has a channel with ledges or flanges 45 (Fig. 1). An electrical connector 135 (Fig. 5) is part of a terminal receptacle 41. The printer has a printer module 58, a roll mounting space for a paper roll 67, and there is a paper egress slot 25 in top

cover 24 [Col. 4, lines 13 through 22]. It is believed that a Sherman et al printer has a motor to advance the web. A protrusion 42 engages an indentation to retain the device 40 within receptacle 41.

Hanson U.S. patent 5,541,398 discloses a hand-held RF data terminal or device 14 with a keyboard 15 and a display 16. The data entry device includes a housing 29 with a rounded contour 20 fitting the palm of the operator's hand [Col. 5, lines 57 through 61 and Col. 6, lines 26 through 35]. A hand strap 33 helps prevent the operator from dropping the data terminal 14. The contour is disposed between the front and rear portions of the data entry device 14.

Goodwin et al patent 5,486,259 discloses a hand-held labeler for printing and applying labels. As indicated in [Col. 3, lines 11-13], the housing 11 is shown to have a pair of essentially mirror-image housing sections 35 and 36 connected to the handle.

Austin et al U.S. patent 6,068,420 discloses a portable printer 10 with an elongate housing having a front portion and a rear portion. The housing has space for receiving a label web roll. An elongate printed circuit board 40 is supported within the housing. A print head 38 is mounted to the circuit board at the rear portion of the housing [Column 4, lines 12 through 14]. The Examiner mischaracterized the print head 38 as a module. A platen 26 is formed in the base 14 as a substantially flat fixed surface proximate the exit [Column 3k

line 66 through Column 4, line 2]. The Austin et al patent does not disclose any platen roll.

McKinnon et al U.S. patent 6,202,642 discloses an electronic monitoring medication apparatus. The apparatus includes a printed circuit board 2700 (Fig. 27), batteries 2704 mounted in the printed circuit board, and a battery holder 2712 [Column 13, lines 55 through 65]. The Examiner mischaracterized the holder 2712 as "a separator".

NL 174772 (Netherlands) reference discloses a portable electronic calculator with an inbuilt thermal printer with a weight of 220 grams.

ARGUMENT

In the Final Office Action dated November 20, 2002, the Examiner based all of rejections in part on Fig. 7 of the present application. He characterized Appellants' own disclosure as prior art for the first time in the Final Office Action. This is a new and improper rejection. The Examiner may possibly be referring to the Axiohm reference of record but it is not "admitted prior art" it is simply "prior art". The Axiohm reference is what it is. Appellants do not deny that the Axiohm reference is prior art, indeed, it was cited to the Patent and Trademark Office in an information disclosure statement mailed November 29, 1999 before the first Office Action.

The rejection is not fairly based because even when the references are combined the new, useful and unobvious

arrangement of parts in a hand-held device is not taught. Claim 37 defines a hand-held printer with an elongate printer housing having a portion to receive the palm of the user's hand, the housing having a front portion and a rear portion, a platen roll at the rear portion, the printer housing including a channel and flanges at opposite sides of the housing providing a compartment to embrace a portable data entry device, an electrical connector on the housing for connection to the data entry device, the housing providing space for mounting a roll of a printable web, a print module at the rear portion of the printer housing, the connector being disposed between the front portion and the roll-mounting space, the print module including a thermal print head cooperable with the platen roll for printing on the web and an electric motor for moving the platen roll, a releasable latch to latch the portable data entry device in the compartment of the printer housing, the compartment having an open top between the flanges to provide access to the portable data entry device, the compartment being open at the end of the front portion to enable a portable data entry device to be slidably received through the open end.

Claim 37 was rejected on the primary reference Fukumoto et al in view of Sherman et al and presumably the Axiohn publication.

While the Fukumoto et al reference does disclose a printer for receiving a portable data entry device in a recess

and under a retaining piece, there is no teaching of a "printer housing including a channel and flanges at opposite sides of the housing providing a compartment to embrace a portable data entry device." If the printer and data entry device falls out of the user's hand, there are no flanges at opposite sides of the housing to embrace the data entry device and prevent it from forcibly separating. In Fukumoto et al all there is no electrical connector on the housing, much less an electrical connector "disposed between the front portion and roll-mounting space". In Fukumoto et al there is optical terminal, not an electrical connector. The claimed housing provides space for mounting a roll of a printable web. In Fukumoto et al the roll is mounted outside the housing. There is no teaching of a print module which includes a thermal print head cooperable with a platen roll and an electric motor for moving the platen roll. There is no disclosure in Fukumoto et al of the claimed releasable latch to latch the portable data entry device in the compartment of the printer housing. In Fukumoto et al there is no compartment "open at the end of the front portion to enable a portable data entry device to be slidably received through the open end." In Fukumoto et al the right end of the printer housing as viewed in Fig. 1 of Fukumoto et al is closed so the data entry device cannot be slid into the recess through any open end. Claim 37 structurally and functionally defines invention over Fukumoto et al. Although Appellants do not now claim or have ever

claimed to have invented a print module, it is pure hindsight conjecture to suppose that the Fukumoto et al printer includes such a print module with an electric motor and a platen roll. As for the Sherman et al reference, it appears to be a table top device which is portable in the sense that it can be carried by means of a handle, but it is not hand-held as claimed. In Sherman et al there is no teaching of a print module "at the rear portion" of the printer housing. The print module of Sherman et al, when disregarding the projecting handle 28, is located approximately mid-ship. Moreover, Sherman et al do not teach a connector "disposed between the front portion and the roll mounting space" as claimed. While the handle 28 of Sherman et al can receive the user's fingers, it teaches a quite different side-by-side arrangement of parts, and even so the Examiner has attempted to import its teachings into the Fukumoto et al device. If Sherman et al are to be relied upon, it should be noted that Sherman et al clearly do not teach "flanges at opposite sides of the housing" as claimed. The flanges 45 of Sherman et al are definitely not on opposite sides of the printer housing, they are on one extreme side of the printer housing. The Sherman et al printer does not have "an elongate printer housing having a portion to receive the palm of the user's hand". The Examiner has redesigned the Fukumoto et al device based on Appellants' own disclosure. There is no motivation to do the redesign suggested by the Examiner.

Claim 43 rejected on Fukumoto et al in view of allegedly admitted prior art and Sherman et al, recites the housing sections as having a pair of opposed substantially mirror-image housing sections, wherein each housing section includes one of the flanges. Fukumoto et al are devoid of teaching of the claimed flanges. In Sherman et al the flanges 43 are all part of a unitary part (Fig. 2 of Sherman et al). There is no teaching of the claimed construction.

Claim 51 defines in combination that the platen roll is pivotally mounted toward and away from the print head. In the Axiohm publication the platen roll is so mounted, but there is no way for anyone to tell how the Fukumoto et al device could be modified by the Axiohm publication. It's pure speculation. Specifically, in Fukumoto there must be a platen, but it is unobvious how one would mount a platen roll toward and away from the print head.

With respect to claim 52, the same reasons in support of patentability apply as expressed with respect to claim 37, and it is not seen how the teachings of the Axiohm cover and platen roll can be applied to modify the Fukumoto et al device. Fukumoto does not disclose either a platen roll or a cover. The supply roll is mounted on a pair of stationary arms. It is unobvious as to where or how the platen roll would be pivotally mounted to the cover and cooperate with the print head of Fukumoto et al.

Claim 53 is submitted to be allowable for the same reasons as parent claim 37 but is more specific as to structure.

Claim 54 is submitted to be allowable for the same reasons as parent claim 37, and because it is not seen how the Axiohm module could be used to modify the Fukumoto et al device.

Claim 56 is submitted to be allowable for the same reasons as parent claim 37 because the printer is claimed in combination with a portable data entry device, this is where Fukumoto et al are lacking because parent claim 37 defines that the compartment is open at the end of the front end to enable a portable data entry device to be slidably received through the open end. It also enables the portable entry device which has a scanner to be used, unlike the Fukumoto et al device which lacks this capability.

Claim 38 is rejected on the same references as parent claim 37 but additionally on Hanson. The palm-receiving portion of Fukumoto is not contoured and concave. Hanson, of course, does not disclose a printer, rather it discloses a data terminal or data entry device. It should be noted that parent claim 37 defines that the housing has a front portion and a rear portion plus a portion to receive the palm of the user's hand. In Fukumoto et al the palm-receiving portion is at the front portion of the housing which is unlike the claimed palm-receiving portion. It is just hindsight to attempt to reposition

the palm-receiving portion of Fukumoto et al, if that were even possible, to meet the claimed invention.

Claim 39 defines the palm-receiving portion as being contoured. The claimed palm-receiving portion of Fukumoto is not contoured.

Claim 40 further defines claim 39 as including a strap adjacent the contoured portion. It is hindsight to modify Fukumoto et al by providing a strap at contoured palm-receiving portion.

Claim 41 further defines the invention of claim 37 by defining that the palm-receiving portion of the printer housing is concave between the front portion and the rear portion. Fukumoto et al have a recess at the underside of the front portion of the printer housing. Even if the references are combined, the claimed combination is not met.

Claim 42 defines a strap connected to the printer housing and capable of passing around the back of the user's hand. The Examiner has imported the teachings of Hanson which relates to a portable data entry device into the printer of Fukumoto et al using Appellant's own disclosure.

Claim 55 is submitted to be allowable for the same reasons as parent claim 37 and additionally because the palm-receiving portion is stated to be disposed between the front and rear portions, and additionally because any rejection on the modification of Fukumoto et al by Hanson which relates to a data entry device would be based on hindsight.

Claim 44 is dependent on claim 43 and is allowable for the same reasons. Additionally, claims 44 defines a printer printed circuit board supported by the mirror-image housing sections. The Examiner has rejected claim 44 also on Goodwin et al and Austin et al. Co-owned Goodwin et al does disclose mirror-image housing sections of a housing. In claim 44 it is the mirror-image housing sections that mount the printed circuit board. Modifying Fukumoto et al by the Axiohm, Sherman et al, Goodwin et al and Austin et al teachings amounts to an impermissible use of hindsight in view of Appellants' own disclosure.

Claim 45 further defines the invention of claim 37 and recites that "the print module is mounted on the printed circuit board." As mentioned above Austin et al does not mount a print module which is specifically defined as including a thermal print head cooperable with the platen roll and an electric motor for moving the platen roll. There is no teaching of this in any of the cited references.

Claim 66 defines a hand-held printer with an elongate housing having a front portion with an open-ended channel-shaped compartment adapted to slidably receive a data entry device through the open end of the compartment, the compartment having a substantially open top portion, the housing having a pair of opposed connected substantially mirror-image housing sections, the housing further having a rear portion, an elongate printer printed circuit board

disposed in the housing and supported by the housing sections, the printer circuit board having a front portion and a rear portion, a thermal print head mounted to printer circuit board, a driven platen roll cooperable with the print head for printing on the web, and an electric motor for the platen roll mounted to the printer circuit board.

Claim 66 is rejected as unpatentable over five references including Goodwin et al. The claim has numerous distinctions over Fukumoto et al including that of an open-ended channel-shaped compartment, opposed mirror-image housing sections and an electric motor for the platen roll and a thermal print head mounted to the printer circuit board. Considering that Fukumoto et al do not disclose any structure relating to a printer mechanism, it is pure speculation as to how one of ordinary skill in the art would modify certain aspects of the Fukumoto et al device.

Claim 67 further defines the structure recited in claim 66 by defining that the mirror-image housing sections receive the printed circuit board. There is no such teaching in the references. Goodwin et al adds no useful teaching to Fukumoto which discloses a substantially different organization.

Claim 69 defines a hand-held printer with an elongate housing having a front portion and a rear portion, the front portion having a compartment adapted to receive a data entry device, the housing having a pair of opposed substantially

mirror-image housing sections with flanges for overlying and embracing a portable data entry device, a thermal print head and a cooperating platen roll disposed at the rear portion, a printer printed circuit board supported by the housing sections, a driven platen roll, an electric motor for the platen roll, and wherein the print head and the electric motor are mounted on the printer circuit board. Claim 69 is submitted to be allowable for the same reasons as claim 67 but in addition because it claims that the mirror-image housing sections have opposed flanges for overlying and embracing a portable data entry device, that a printer printed circuit board is supported by the housing sections, and that the print head and an electric motor are mounted on the printer circuit board. No such combination is even remotely suggested by the five applied references.

Claim 70 is submitted to be allowable for the same reasons as parent claim 69 plus the reason that the mirror-image housing section receive the printed circuit board which is even further from the applied prior art. Goodwin et al disclose a substantially different organization.

Claim 46, dependent on claim 45, defines that at least one battery is mounted on the printer circuit board. The Examiner adds McKinnon et al to the slew of other references, but the electronic monitoring medication apparatus of McKinnon et al is non-analogous prior art which does not even

disclose a "printer circuit board." Again, the Examiner is relying on hindsight.

Claims 57 through 60 were rejected on Fukumoto et al in view of allegedly admitted prior art, Sherman et al, Goodwin et al, Austin et al and McKinnon, no less than six references. Claim 57 defines a hand-held printer with an elongate housing having a front portion with a compartment adapted to receive a data entry device, the housing further having a rear portion, the platen roll, a printer printed circuit board disposed in the housing, at least one battery on the printer printed circuit board at the front portion of the housing, and a thermal print head and an electric motor for driving the platen roll being mounted to the printer circuit board. First of all, the contents of the Fukumoto et al housing are pure speculation. So the Examiner drags five additional references in to reject a claim which is seven lines long. There is no teaching in any of the references of "at least one battery on the printer printed circuit board at the front portion of the housing" and there is no teaching in any of the references of "a thermal print head and an electric motor for driving the platen roll being mounted to the printer circuit board". The only remotely possible relevant patent, Austin et al, for modifying Fukumoto et al is deficient in teaching a battery on the printed circuit board or both an electric motor and a print head on the printer circuit board. In Austin et al, because of the pivotal mounting of the printer circuit board, mounting a battery and

an electric motor on the Austin et al printer circuit board may be too much weight for the print head 36 against the web 20 in addition to the spring force of spring 66. Also, Austin et al fail to teach a platen roll, in combination. The rejection of claim 57 is based on hindsight in view of Appellants' own disclosure.

Claim 58 further defines the invention defined in parent claim 57 by defining that the compartment is shaped to overlie embracingly the sides of a data entry device, the compartment having an open top and an open front end, and an electrical connector at the rear of the compartment for connection to a data entry device. While Sherman et al are relevant to the added language of claim 58 over parent claim 57, the Examiner has used impermissible hindsight by modifying Fukumoto et al with both Austin et al and Sherman et al. It is submitted that one having all the assembled references available would not have devised the combination claimed. Again, even combining all the six references does not meet claim 58.

Claim 59 defines that there are a plurality of adjacent batteries, a separator between each pair of adjacent batteries, and the separators being secured to the printer circuit board. Even McKinnon relating to electronic monitoring medication apparatus is irrelevant because it relates to non-analogous prior art and does not disclose a printer circuit board. It is denied that the battery holder 2712 of McKinnon et al is a

separator. Not every holder is a separator and not every separator is a holder.

With respect to claim 60, the modification of Fukumoto et al, by Axiohm, Sherman et al and Austin et al is unjustified, and even when the reconstruction suggested by the Examiner is made, the claim is not met.

Claim 72 defines a hand-held printer with an elongate housing having a front portion with a compartment adapted to receive a portable data entry device, the housing further having a rear portion, the housing providing space for receiving a roll of a printable web, the housing having a pair of opposed substantially mirror-image connected housing sections, a printer printed circuit board disposed in the housing and supported by the housing sections, a driven platen roll, an electric motor for the platen roll, at least one battery, a thermal print head cooperable with the platen roll, and wherein the battery and the electric motor are mounted on the printer circuit board. Claim 72 is rejected over six references. McKinnon adds nothing to what one of ordinary skill in the art would do to modify Fukumoto et al. Even when the references are combined the invention is not met. The last clause of the claim, for example, defines structure not even remotely suggested by the references.

Claim 47, based on parent claim 37, defines that at least one battery is mounted on a printer circuit board. The McKinnon et al apparatus is non-analogous and is irrelevant.

Claim 48 adds to the recitations of parent claim 37 "a printer printed circuit board supported within the housing, and wherein at least one battery is mounted on the printer circuit board." McKinnon et al cannot be used to modify the Fukumoto et al device based on hindsight using non-analogous prior art.

Claim 49 further defines claim 37 by reciting that a print module and a battery are mounted on the printed circuit board. This is nowhere taught in the references and thus the Fukumoto et al device cannot be modified by hindsight.

Claim 65 defines in combination a hand-held printer and a portable data entry device connected thereto, the portable data entry device including a data entry device housing having a front end, a scanner disposed on the front end of the data entry device housing for scanning a code, a display and a plurality of manually operable keys, the printer including an elongate printer housing having a front portion with a compartment adapted to receive the data entry device, the housing further having a rear portion, a printer printed circuit board disposed in the housing, at least one battery on the printer circuit board at the front portion of the printer housing, a driven platen roll, a thermal print head and an electric motor for the platen roll, and the thermal print head and the electric motor being mounted to the printer circuit board at the rear portion of the printer housing. Claim 65 is submitted to be allowable for some of the reasons advanced

with respect to claim 63. No applied reference teaches the claimed combination. For example, the last clause of the claim is simply not met by any reference.

Claim 50 further defines claim 37 structure in that the printer weighs less than 16 ounces and the Examiner cited additionally he Texas Instruments publication. Applicants' hand-held printer is lightweight in addition to having the claimed structure. The weight of the Fukumoto et al device is not known. Just because a hand-held printing calculator weighs less than 16 ounces does not mean it is obvious that the heavily modified Fukumoto et al device, if made to weigh less than 16 ounces, meets the claim.

Claim 61 defines a hand-held printer with an elongate housing having a front portion with an open-ended channel-shaped compartment adapted to slidably receive a data entry device through the open end of the compartment, the compartment having a substantially open top portion, the housing further having a rear portion, a printer printed circuit board disposed in the housing, the printer circuit board having a front portion and a rear portion, and a thermal print head for printing on a web and an electric motor for driving the platen roll mounted to the rear portion of the printer circuit board. Again, the contents of the printer housing of Fukumoto are pure speculation. Claim 61 is specific as to the location of the print head on the circuit board. Claim 61 is submitted to be allowable over the four references applied by the

Examiner. No combination of references teaches the claimed invention Even when the references are combined, there is no teaching of the structure claimed in the last clause of the claim.

With respect to claim 62 which takes up all of six and one-half lines and is rejected on four references, there is no reference that teaches the claimed combination including, inter alia, a "print head and the electric motor being mounted on the printer circuit board". Claim 62 is broader than claim 61 because it does not describe the compartment as channel-shaped. Claim 62 defines that the print head is mounted on the printer circuit board. The rejection of claim 62 is based on hindsight.

Claim 63 defines in combination a hand-held printer and a portable data entry device connected thereto, the portable data entry device including an elongate data entry device housing having a front end, a scanner disposed on the front end of the data entry device housing for scanning a code, a display and a plurality of manually operable keys, the printer including an elongate printer housing having a front portion with an open-ended channel-shaped compartment adapted to slidably receive the data entry device through the open end of the compartment and to enbrace the data entry device, the scanner being capable of receiving data through the open end of the compartment, the compartment having opposed flanges and a substantially open top portion to enable access to the

display and the keys, the printer housing further having a rear portion, a platen roll at the rear portion, a printer printed circuit board disposed in the printer housing, and a thermal print head and an electric motor for the platen roll mounted to the printer circuit board at the rear portion of the printer housing. Claim 63 is submitted to be patentable over the four applied references which even when combined fail to teach the claimed invention. No patent of record teaches "a thermal print head and an electric motor for the platen roll mounted to the printer circuit board at the rear portion of the printer housing." The open front end enables "the scanner disposed on the front end of the data entry device" to receive "data through the open end of the compartment." The comprehensive combination defined in claim 63 is not taught by the assembled references.

Claim 64 defines in combination a hand-held printer and a portable data entry device connected thereto, the portable data entry device including a data entry device housing having a front end, a scanner disposed on the front end of the data entry device housing for scanning a code, a display and a plurality of manually operable keys, the printer including an elongate printer housing having a front portion and a rear portion, the front portion having a compartment adapted to receive the data entry device, a thermal print head and a cooperating rotatable platen roll disposed at the rear portion, an electric motor for the platen roll, a printer printed circuit

board in the printer housing, and the print head and the electric motor being mounted on the printer circuit board at the rear portion of the printer housing. Claim 64 is submitted to be allowable for some of the same reasons as claims 63, although claim 64 is broader in some respects. Claim 64 does not define a scanner whereas claim 63 does.

RESPONSES TO EXAMINER'S CONTENTIONS

The Examiner's contentions have been responded to above. In particular, however, the Examiner has expressed his opinions on numerous structural features being obvious and that all these many references can be combined no matter how strained the attempted reconstruction of the Fukumoto device is. Basically the Examiner contends that the Fukumoto et al device could be modified by one skilled in the art. But the test is otherwise. The test is would one of ordinary skill in the art make the numerous modification suggested by the Examiner. We say "No!".

CONCLUSION

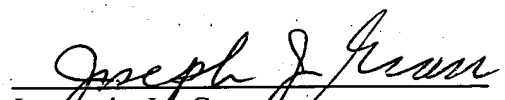
Fig. 7 is the present application is not prior art. If the Examiner decides belatedly to change his position to include the Axiohm reference that is all right. But for right now all the rejections are flawed.

The invention, as claimed, defines, a new, useful, unobvious and commercial arrangement of parts not suggested by the various references applied against the claims. The rejection is based on hindsight after seeing Appellants'

disclosure. While it is recognized that more than one reference can be applied against a claim, there must be some suggestion or motivation for one of ordinary skill in the art to modify a primary reference. The assembling of some many references leaves substantial doubt as to the soundness of the Examiner's position, particularly where, even when the many references are combined, the claimed invention is still not met.

In view of the foregoing, it is respectfully requested that all the claims on appeal be found allowable to Appellants.

Respectfully submitted,



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865-2012

APPENDIX

37. A hand-held printer, comprising: an elongate printer housing having a portion to receive the palm of the user's hand, the housing having a front portion and a rear portion, a platen roll at the rear portion, the printer housing including a channel and flanges at opposite sides of the housing providing a compartment to embrace a portable data entry device, an electrical connector on the housing for connection to the data entry device, the housing providing space for mounting a roll of a printable web, a print module at the rear portion of the printer housing, the connector being disposed between the front portion and the roll-mounting space, the print module including a thermal print head cooperable with the platen roll for printing on the web and an electric motor for moving the platen roll, a releasable latch to latch the portable data entry device in the compartment of the printer housing, the compartment having an open top between the flanges to provide access to the portable data entry device, the compartment being open at the end of the front portion to enable a portable data entry device to be slidably received through the open end.

38. A hand-held printer as defined in claim 37, the palm-receiving portion being contoured and concave.

39. A hand-held printer as defined in claim 37, the palm-receiving portion being contoured.

40. A hand-held printer as defined in claim 39, including a strap adjacent the contoured portion.

41. A hand-held printer as defined in claim 37, wherein the palm-receiving portion of the printer housing is concave between the front portion and the rear portion.

42. A hand-held printer as defined in claim 37, including a strap connected to the printer housing and capable of passing around the back of the user's hand.

43. A hand-held printer as defined in claim 37, the housing having a pair of opposed substantially mirror-image housing sections, wherein each housing section includes one of the flanges.

44. A hand-held printer as defined in claim 43, including a printer printed circuit board supported by the housing sections.

45. A hand-held printer as defined in claim 37, wherein the print module is mounted on the printer circuit board.

46. A hand-held printer as defined in claim 45, wherein at least one battery is mounted on the printer circuit board.

47. A hand-held printer s defined in claim 37, wherein at least one battery is mounted on a printer circuit board.

48. A hand-held printer as defined in claim 37, including a printer printed circuit board supported within the

housing, and wherein at least one battery is mounted on the printer circuit board.

49. A hand-held printer as defined in claim 37, including a printer printed circuit board supported within the housing, wherein the print module is mounted on the printer circuit board, and wherein at least one battery is mounted on the printer circuit board.

50. A hand-held printer as defined in claim 37, wherein the printer weighs less than 16 ounces.

51. A hand-held printer as defined in claim 37, wherein the platen roll is pivotally mounted toward and away from the print head.

52. A hand-held printer as defined in claim 37, wherein the housing includes a cover, and wherein the platen roll is pivotally mounted to the cover.

53. A hand-held printer as defined in claim 37, wherein the printer housing length is at least twice as great as the width.

54. A hand-held printer as defined in claim 37, wherein the platen roll forms part of the print module.

55. A hand-held printer as defined in claim 37, wherein the palm-receiving portion is disposed between the front and rear portions.

56. A hand-held printer as defined in claim 37, in combination with a portable data entry device.

57. A hand-held printer, comprising: an elongate housing having a front portion with a compartment adapted to receive a data entry device, the housing further having a rear portion, a platen roll, a printer printed circuit board disposed in the housing, at least one battery on the printer printed circuit board at the front portion of the housing, and a thermal print head and an electric motor for driving the platen roll being mounted to the printer circuit board.

58. A hand-held printer as defined in claim 57, wherein the compartment is shaped to overlie embracingly the sides of a data entry device, the compartment having an open top and an open front end, and an electrical connector at the rear of the compartment for connection to a data entry device.

59. A portable printer as defined in claim 57, wherein there are a plurality of adjacent batteries, a separator between each pair of adjacent batteries, and the separators being secured to the printer circuit board.

60. A hand-held printer as defined in claim 57, wherein the compartment has an open top, and an electrical connector at the rear of the compartment for connection to a data entry device.

61. A hand-held printer, comprising: an elongate housing having a front portion with an open-ended channel-shaped compartment adapted to slidably receive a data entry device through the open end of the compartment, the compartment having a substantially open top portion, the

housing further having a rear portion, a printer printed circuit board disposed in the housing, the printer circuit board having a front portion and a rear portion, and a thermal print head for printing on a web and an electric motor for driving the platen roll mounted to the rear portion of the printer circuit board.

62. A hand-held printer, comprising: an elongate housing having a front portion and a rear portion, the front portion having a compartment adapted to receive a data entry device, a thermal print head and a cooperating platen roll disposed at the rear portion, an electric motor for the platen roll, a printer printed circuit board in the housing, and the print head and the electric motor being mounted on the printer circuit board.

63. In combination: a hand-held printer and a portable data entry device connected thereto, the portable data entry device including an elongate data entry device housing having a front end, a scanner disposed on the front end of the data entry device housing for scanning a code, a display and a plurality of manually operable keys, the printer including an elongate printer housing having a front portion with an open-ended channel-shaped compartment adapted to slidably receive the data entry device through the open end of the compartment and to embrace the data entry device, the scanner being capable of receiving data through the open end of the compartment, the compartment having opposed flanges and a

substantially open top portion to enable access to the display and the keys, the printer housing further having a rear portion, a platen roll at the rear portion, a printer printed circuit board disposed in the printer housing, and a thermal print head and an electric motor for the platen roll mounted to the printer circuit board at the rear portion of the printer housing.

64. In combination: a hand-held printer and a portable data entry device connected thereto, the portable data entry device including a data entry device housing having a front end, a scanner disposed on the front end of the data entry device housing for scanning a code, a display and a plurality of manually operable keys, the printer including an elongate printer housing having a front portion and a rear portion, the front portion having a compartment adapted to receive the data entry device, a thermal print head and a cooperating rotatable platen roll disposed at the rear portion, an electric motor for the platen roll, a printer printed circuit board in the printer housing, and the print head and the electric motor being mounted on the printer circuit board at the rear portion of the printer housing.

65. In combination: a hand-held printer and a portable data entry device connected thereto, the portable data entry device including a data entry device housing having a front end, a scanner disposed on the front end of the data entry device housing for scanning a code, a display and a plurality

of manually operable keys, the printer including an elongate printer housing having a front portion with a compartment adapted to receive the data entry device, the housing further having a rear portion, a printer printed circuit board disposed in the housing, at least one battery on the printer circuit board at the front portion of the printer housing, a driven platen roll, a thermal print head and an electric motor for the platen roll, and the thermal print head and the electric motor being mounted to the printer circuit board at the rear portion of the printer housing.

66. A hand-held printer, comprising: an elongate housing having a front portion with an open-ended channel-shaped compartment adapted to slidably receive a data entry device through the open end of the compartment, the compartment having a substantially open top portion, the housing having a pair of opposed connected substantially mirror-image housing sections, the housing further having a rear portion, an elongate printer printed circuit board disposed in the housing and supported by the housing sections, the printer circuit board having a front portion and a rear portion, a thermal print head mounted to printer circuit board, a driven platen roll cooperable with the print head for printing on the web, and an electric motor for the platen roll mounted to the printer circuit board.

67. A hand-held printer as defined in claim 66, wherein the mirror-image housing sections receive the printed circuit board.

69. A hand-held printer, comprising: an elongate housing having a front portion and a rear portion, the front portion having a compartment adapted to receive a data entry device, the housing having a pair of opposed substantially mirror-image housing sections with flanges for overlying and embracing a portable data entry device, a thermal print head and a cooperating platen roll disposed at the rear portion, a printer printed circuit board supported by the housing sections, a driven platen roll, an electric motor for the platen roll, and wherein the print head and the electric motor are mounted on the printer circuit board.

70. A hand-held printer as defined in claim 69, wherein the mirror-image housing sections receive the printed circuit board.

72. A hand-held printer, comprising: an elongate housing having a front portion with a compartment adapted to receive a portable data entry device, the housing further having a rear portion, the housing providing space for receiving a roll of a printable web, the housing having a pair of opposed substantially mirror-image connected housing sections, a printer printed circuit board disposed in the housing and supported by the housing sections, a driven platen roll, an electric motor for the platen roll, at least one battery,

a thermal print head cooperable with the platen roll, and wherein the battery and the electric motor are mounted on the printer circuit board.